

What is claimed is:

1. A method for controlling a tool changer which comprises a changer arm having a spindle tool holder for holding a tool attached to a main spindle and a standby tool holder for holding a tool to be next attached to the main spindle for tool change and is adapted to pivot the changer arm by a driving system including a servo motor to exchange the tool attached to the main spindle in a tool changing position and the next tool in a predetermined position, the method comprising the steps of:

preliminarily pivoting the changer arm by a predetermined angle when the main spindle is moved to the tool changing position;

further pivoting the changer arm so as to move the spindle tool holder of the changer arm to the tool changing position after the main spindle reaches the tool changing position; and

causing the spindle tool holder of the changer arm to hold the tool attached to the main spindle.

2. A method as set forth in claim 1,

wherein, when the main spindle is located on the same side as the spindle tool holder of the changer arm with respect to a plane including a pivot axis of the changer arm and the tool changing position prior to the

movement to the tool changing position, the predetermined preliminary pivot angle is smaller than the predetermined preliminary pivot angle when the main spindle is located opposite from the spindle tool holder with respect to the plane prior to the movement to the tool changing position.

3. An apparatus for controlling a tool changer which comprises a changer arm having a spindle tool holder for holding a tool attached to a main spindle and a standby tool holder for holding a tool to be next attached to the main spindle for tool change and is adapted to pivot the changer arm by a driving system including a servo motor to exchange the tool attached to the main spindle in a tool changing position and the next tool in a predetermined position, the apparatus comprising a drive controlling section for driving the servo motor to perform a changer arm pivoting control process comprising the steps of:

preliminarily pivoting the changer arm by a predetermined angle when the main spindle is moved to the tool changing position;

further pivoting the changer arm so as to move the spindle tool holder of the changer arm to the tool changing position after the main spindle reaches the tool changing position; and

causing the spindle tool holder of the changer arm to hold the tool attached to the main spindle.

4. An apparatus as set forth in claim 3,

wherein, when the main spindle is located on the same side as the spindle tool holder of the changer arm with respect to a plane including a pivot axis of the changer arm and the tool changing position prior to the movement to the tool changing position, the predetermined preliminary pivot angle is smaller than the predetermined preliminary pivot angle when the main spindle is located opposite from the spindle tool holder with respect to the plane prior to the movement to the tool changing position.

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